

US009693213B2

# (12) United States Patent

## Self et al.

(10) Patent No.: US 9,693,213 B2

(45) **Date of Patent:** Jun. 27, 2017

## (54) CALLER LOCATION AND PSAP DETERMINATION SYSTEMS AND METHODS

(71) Applicant: Laaser Critical Communications

Corp., Atlanta, GA (US)

(72) Inventors: Michael R. Self, Ft Lauderdale, FL

(US); Frederick L. White, Atlanta, GA

(US)

(73) Assignee: Laaser Critical Communications

Corp., Atlanta, GA (US)

(\*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 15/392,256

(22) Filed: Dec. 28, 2016

(65) Prior Publication Data

US 2017/0142570 A1 May 18, 2017

#### Related U.S. Application Data

- (63) Continuation-in-part of application No. 15/218,973, filed on Jul. 25, 2016, now Pat. No. 9,544,750, which is a continuation-in-part of application No. 14/939,702, filed on Nov. 12, 2015, now Pat. No. 9,402,159.
- (51) Int. Cl. H04W 4/22 (2009.01) H04W 4/02 (2009.01) H04M 3/42 (2006.01)
- (52) **U.S. CI.**CPC ....... *H04W 4/22* (2013.01); *H04M 3/42357* (2013.01); *H04W 4/02* (2013.01)
- (58) **Field of Classification Search**CPC ........ H04W 4/22; H04W 4/02; H04W 4/023;
  H04M 3/42357

USPC ........... 455/404.1–2, 412.1–2, 456.1–2, 567; 379/45 See application file for complete search history.

## (56) References Cited

### U.S. PATENT DOCUMENTS

6,225,944 B1 5/2001 Hayes 6,477,363 B1 11/2002 Ayoub et al. 7,796,738 B2 9/2010 Wright (Continued)

## OTHER PUBLICATIONS

 $\label{thm:continuous} International Search Report, dated Feb.\,6,\,2017, from corresponding International Application No.\ PCT/US2016/061410.$ 

(Continued)

Primary Examiner — Cong Tran (74) Attorney, Agent, or Firm — Brient Globerman, LLC

#### (57) ABSTRACT

Computer systems, according to various embodiments, are adapted to assist emergency services providers in determining the location of an individual who is in need of help. In various embodiments, the system may be adapted to determine a current dispatchable location for the individual who is in need of help, use the determined dispatchable location to determine which particular public-safety answering point will be handling an emergency call regarding the individual, update a data structure associated with the particular public-safety answering point to indicate the individual's current location, and then initiate and/or mediate a call between the individual and the emergency services provider. In various embodiments, updating the database may provide more accurate information regarding the individual's location than would otherwise be available for the individual.

#### 29 Claims, 9 Drawing Sheets

